

REMARKS

A request for a one month extension of time to respond is included herewith along with the required fee of \$110.00. Should any additional fees under 37 C.F.R. §§ 1.16 to 1.21 be required for any reason, the Assistant Commissioner is authorized to deduct said fees from Williams, Morgan & Amerson's P.C. Deposit Account 50-0786/2008,000282.

Pursuant to the above amendments, claims 36-37, 41-43, 45-46, 50-52, and 54 are pending in the present application. In the Final Office Action, claims 36-37, 39-43, 45-46, and 48-52 were rejected under 35 U.S.C. § 102(e) as being anticipated by Yang (U.S. Patent No. 6,040,603) in view of Hsing et al. (U.S. Patent No. 5,517,046). However, the Examiner cited 35 U.S.C. § 103(a) just prior to the statement rejecting these claims. Moreover, the Examiner admits that Yang does not disclose all the limitations of the present invention, *i.e.* Yang does not disclose selecting a first distance to a boundary of a first doped well to provide a desired breakdown voltage between a first doped plug and a first doped region. Although the Examiner did not address this question in the Advisory Action, Applicant assumes that the Examiner intended to reject these claims under 35 U.S.C. § 103(a). Claim 54 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Yang in view of Hsing, as applied to claim 51 above, and further in view of Pilling et al. (U.S. Patent No. 5,838,624). Claims 38, 47, and 53 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Yang in view of Hsing, as applied to claims 37, 44, and 51 above, and further in view of Matsukawa (U.S. Patent No. 5,182,227). The Examiner's rejections are respectfully traversed.

As the Examiner well knows, it is claimed invention, as a whole, that must be considered for purposes of determining obviousness. A mere selection of various bits and pieces of the claimed invention from various sources of prior art does not render a claimed invention obvious,

unless there is a suggestion or motivation in the prior art for the claimed invention, when considered as a whole. In this case, it is respectfully submitted that the obviousness rejection is improper because, even if all the cited references are combined, there is no suggestion in the prior art of record for the entirety of the claimed invention.

Applicant describes and claims in independent claims 37, 46, and 51, among other things, selecting a first distance from a first doped plug to a first boundary of the first doped well to provide approximately a desired breakover voltage between the first doped plug and the first doped region. For example, a first n-plug 104 may be positioned a distance "x" from a first edge 122 of a first n-well 106. The breakover voltage is therefore tunable by adjusting the distance "x." See Patent Application, pg. 14, ll. 19-22 and Figure 5. Applicants also describe and claim forming a second doped plug into the first doped region and forming at least one of a LOCOS oxide and a surface trench filled with an oxide between the first and second doped plugs.

Yang is directed to controlling a breakover voltage in an electrostatic discharge protection device including a gate electrode 301. Yang describes forming source and drain regions 305, 307, each having a lightly doped drain region, using ion implants. Next, a first electrostatic discharge implant 309 is formed such that the electrostatic discharge implant 309 will wholly encompass the source region 305, the drain region 307, and the lightly doped drain regions. A second electrostatic discharge implant 311, which has an impurity type opposite to that of the source and drain regions 305, 307 and the first electrostatic discharge implant 309, is formed underneath the first electrostatic discharge implant 309. See Yang, col. 2, ll. 44-67 and Figure 3. As disclosed by Yang, the breakover voltage of the electrostatic discharge protection device is determined by a distance (designated "d" in Figure 3 of Yang) between the first electrostatic discharge implant 309 and the second electrostatic discharge implant 311. See Yang,

col. 3, ll. 3-7, and Figure 3. However, as admitted by the Examiner at page 2 of the Final Office Action, Yang does not teach or suggest selecting a first distance from a first doped plug to a first boundary of the first doped well to provide approximately a desired breakover voltage between the first doped plug and the first doped region.

Thus, the Examiner relies on Hsing to teach selecting a first distance from a first doped plug to a first boundary of the first doped well to provide approximately a desired breakover voltage between the first doped plug and the first doped region. Hsing describes a conventional transistor having a gate 13 formed above an oxide layer 12, which is formed above an epitaxial layer 11. Hsing also describes a drain region 14 formed in the surface of the epitaxial layer 11. However, the combination of Yang and Hsing fails to teach or suggest forming at least one of a LOCOS oxide and a surface trench filled with an oxide between the first and second doped plugs.

The Examiner relies on Matsukawa to teach using a LOCOS oxide to isolate electrical components on a substrate. However, Matsukawa is concerned with electrically isolating MOS transistors, and therefore does not teach or suggest that a LOCOS structure (or an isolation trench structure) can be used as one component of an electrostatic discharge protection device. Thus, there is no suggestion in Matsukawa, Yang, or Hsing to replace the gate taught by Yang and Hsing with the LOCOS structure of Matsukawa to yield the electrostatic discharge protection device formed by the claimed method.

In rejecting claim 54, the Examiner relies on Pilling to teach an anti-fuse network that is susceptible to damage from electrostatic discharge. However, Pilling does not remedy the fundamental deficiencies of Yang, Hsing, and Matsukawa, as described above. Thus, for at least the aforementioned reasons, Applicant respectfully submits that claim 54 is not obvious over

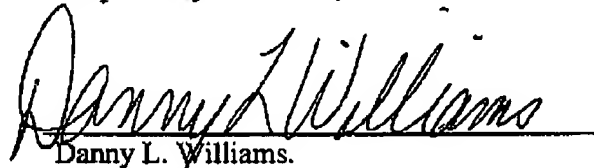
Yang in view of Hsing and further in view of Pilling, and requests that the Examiner's rejection be withdrawn.

Thus, for at least the aforementioned reasons, Applicant respectfully submits that the present invention is not obvious over Yang in view of Hsing and further in view of Matsukawa, and requests that the Examiner's rejection of the pending claims be withdrawn.

The Examiner is invited to contact the undersigned at (713) 934-4060 with any questions, comments or suggestions relating to the referenced patent application.

Respectfully submitted,

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